

JAN 22 2002

PATRICK FISHER
Clerk

PUBLISH

UNITED STATES COURT OF APPEALS
TENTH CIRCUIT

ROSETTE INCORPORATED, a New
Mexico corporation; BURGETT
INVESTMENT, INCORPORATED, a
New Mexico corporation; BURGETT
GEOTHERMAL GREENHOUSE,
INCORPORATED, a New Mexico
corporation,

Plaintiffs-Counter-Defendants-
Appellants,

v.

No. 00-2453

UNITED STATES OF AMERICA; JOHN
ASHCROFT, as Attorney General;
DEPARTMENT OF INTERIOR; GALE
A. NORTON, Secretary of Interior of the
United States; JAMES BACA, in his
official capacity as Director of Bureau of
Land Management; WILLIAM
CALKINS, in his official capacity as State
Director of Bureau of Land Management;
LINDA RUNDELL, in her official
capacity as Las Cruces District Manager
of Bureau of Land Management,

Defendants-Counter-Claimants-
Appellees.

**APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO
(D.C. No. CIV-93-1379-BB)**

Stephen E. Hosford, of Martin, Lutz, Roggow, Hosford & Eubanks, P.C., Las Cruces, New Mexico, for the appellants.

Tamara N. Rountree, Assistant United States Attorney (Norman C. Bay, United States Attorney, and John W. Zavitz, Assistant United States Attorney, on the brief), Albuquerque, New Mexico, for the appellees.

Before **BRISCOE** and **MURPHY**, Circuit Judges, and **OBERDORFER**, Senior District Judge.*

BRISCOE, Circuit Judge.

Plaintiffs Rosette Incorporated, et al. (Rosette), appeal from the district court's grant of summary judgment in favor of the United States as to the ownership of geothermal resources on property obtained pursuant to patents issued under the Stock-Raising Homestead Act of 1916 (SRHA), 43 U.S.C. § 291 *et seq.*; 42 Stat. 1445 (repealed 1976); 39 Stat. 862-64, 65 (repealed 1976). We affirm, agreeing with the district court that the geothermal resources at issue in this case are “minerals” within the reservation of the patents.

I.

Rosette is a collection of related corporations controlled by Dale Burgett or members of his immediate family. Rosette owns the surface estate to certain real property

* The Honorable Louis F. Oberdorfer, Senior United States District Judge, District of Columbia, sitting by designation.

in Section 7, Township 25 South, Range 19 West, Hidalgo County, New Mexico, by virtue of patents issued in 1933 and 1935 under the SRHA. The SRHA permitted any person qualified to acquire land to make a stockraising homestead entry on lands designated by the Secretary of the Interior. 43 U.S.C. § 291. Such designated lands were to be

lands the surface of which is, in [the Secretary of the Interior's] opinion, chiefly valuable for grazing and raising forage crops, do not contain merchantable timber, are not susceptible of irrigation from any known source of water supply, and are of such character that six hundred and forty acres are reasonably required for the support of a family.

43 U.S.C. § 292.

Under the SRHA, a homesteader could obtain a patent on the land if he resided for three years thereon and made permanent improvements tending to increase the value of the land for stockraising purposes. 43 U.S.C. § 293. However, the SRHA required that the patent issued be “subject to and contain a reservation to the United States of all the coal and other minerals in the lands so entered and patented, together with the right to prospect for, mine, and remove the same.” 43 U.S.C. § 299. Rosette’s patents contained a reservation of mineral rights by the United States consistent with 43 U.S.C. § 299.

Several wells were drilled in Section 7 in the 1940s and 1950s, one of which encountered water as hot as 240 degrees Fahrenheit. In 1970, Congress enacted the Geothermal Steam Act (hereinafter Steam Act), which granted the Secretary of the Interior the authority to lease geothermal resources, including steam, hot water and hot

brines, heat from geothermal foundations and byproducts of geothermal foundations, owned or reserved by the United States. 30 U.S.C. § 1001 *et seq.* The Secretary of the Interior leased the geothermal rights to Section 7 to Amax Exploration, Inc., and later to Lightning Dock Geothermal, Inc. Rosette is a designated operator under the lease through agreements with the various leaseholders, and pays royalties. The lease agreement does not permit Rosette to drill deeper than 1,000 feet without prior written consent.

Rosette is in the business of growing roses in greenhouses for commercial distribution. The roses are planted in the ground. Rosette uses the heat in water from five wells located in Section 7 to heat its greenhouses, after which the water is discharged. No heat is transported off of the surface estate or used to generate other energy. Rosette uses water from wells outside Section 7 for irrigation purposes.

In 1993 Rosette filed an action for quiet title, ejectment, declaratory judgment and permanent injunction against the United States, arguing that geothermal resources are not reserved minerals under the SRHA. The United States filed a counterclaim for past-due royalties and seeking to enjoin Rosette. The district court dismissed Rosette's claims as barred by the statute of limitations, and this court affirmed. *Rosette, Inc. v. United States*, 141 F.3d 1394 (10th Cir. 1998).

Rosette reopened and installed a pump on a capped well, Well 55-7, located in Section 7, intending to use water from that well for the heating of the greenhouse. The

depth of Well 55-7 exceeded 1,000 feet. Rosette did not seek permission from the geothermal leaseholder or the United States to utilize the well. As a result of Rosette's actions in reopening Well 55-7, the United States filed its second amended counterclaim to enjoin Rosette from using geothermal resources on its lease located deeper than 1,000 feet. Rosette's answer asked the district court to quiet title as to the geothermal resources against the United States.

The district court heard the second amended counterclaim on cross-motions for summary judgment after the parties had stipulated to numerous facts. The court analyzed the purpose of the SRHA and concluded that, although the SRHA passed in 1916 made no mention of geothermal resources, the definition of minerals as used in the SRHA was broad enough to encompass geothermal resources. The district court therefore found that title to the geothermal resources in Section 7 was vested in the United States as a matter of law, and issued a preliminary and permanent injunction prohibiting Rosette from utilizing the geothermal resources located deeper than 1,000 feet without authorization from the United States and the lessee. The court further ordered Rosette to remove its pump and recap Well 55-7. The parties stipulated as to damages.

II.

Rosette argues that the district court erred in finding that the United States has title to the geothermal resources under Section 7. Rosette's argument essentially advances three points: 1) Geothermal resources as a whole are not "minerals" under the SRHA; 2)

even if geothermal resources as a whole may be “minerals” under the SRHA, the particular geothermal resources under Section 7 do not constitute “minerals” under the SRHA; and 3) even if the geothermal resources under Section 7 are “minerals” under the SRHA, Rosette still has the right to use the resources as surfaceholder to advance the purposes of Rosette’s homestead.

This case was decided on summary judgment. This court reviews the district court’s grant of summary judgment de novo, applying the same legal standard used by the district court. Under Federal Rule of Civil Procedure 56(c), summary judgment is appropriate if the pleadings, depositions, answers to interrogatories, and the admissions on file, together with the affidavits, if any, show there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. *Simms v. Oklahoma ex rel. Dep’t of Mental Health*, 165 F.3d 1321, 1326 (10th Cir. 1999). The evidence and reasonable inferences drawn therefrom are viewed in the light most favorable to the nonmoving party. *See id.*

Geothermal resources as minerals under the SRHA

The determination of whether geothermal resources are minerals under the SRHA requires interpretation of that Act. The construction and applicability of a federal statute is a question of law, which we review de novo. *United States v. Telluride Co.*, 146 F.3d 1241, 1244 (10th Cir. 1998).

The United States Supreme Court examined the scope of the mineral reservation in

the SRHA in *Watt v. Western Nuclear, Inc.*, 462 U.S. 36 (1983). The question at issue in that case was whether gravel extracted from the ground of a patented site was a “mineral” and thus the property of the United States. The Court reasoned that, for a substance to be a mineral reserved under the SRHA, it must not only be a mineral within one or more familiar definitions of that term, but also the type of mineral that Congress intended to reserve to the United States in lands patented under the SRHA. *Id.* at 44. The Court stated that Congress’ underlying purpose in severing the surface estate of lands patented from the mineral estate was to facilitate the concurrent development of both surface and subsurface resources, and that while Congress expected homesteaders to use the surface of land for stockraising and raising crops, it sought to ensure that valuable subsurface resources would remain subject to development by other developers who would be more likely to make use of the resources. *Id.* at 47.

Given the underlying purpose of the SRHA, the Court stated that “the determination of whether a particular substance is included in the surface estate or the mineral estate should be made in light of the use of the surface estate that Congress contemplated,” that is, stockraising and the raising of forage crops. *Id.* at 52. The Court concluded that in order to qualify as a “mineral” under the reservation of the SRHA a substance must be 1) mineral in character, i.e. inorganic, 2) removable from the soil, 3) usable for commercial purposes, 4) and of such a character that there was no reason to suppose Congress intended it to be included in the surface estate. *Id.* at 53. The Court

determined that gravel came under this definition. *Id.* at 55. The Court buttressed this determination by noting that the Department of the Interior had treated gravel as a reserved mineral under other land-grant statutes, and that federal administrative and judicial decisions had consistently treated gravel as subject to general mining laws unless specifically exempted. Finally, the Court recited the established rule that land grants are construed favorably to the Government, and nothing passes except what is conveyed in clear language, with any doubts resolved in favor of the Government. *Id.* at 59-60.

We have found no decisions since *Western Nuclear* addressing the question of whether geothermal resources are minerals under the SRHA. The issue was squarely addressed in an earlier case decided by the Ninth Circuit. See *United States v. Union Oil Co. of California*, 549 F.2d 1271 (9th Cir. 1977). In *Union Oil*, the court applied an analysis substantially similar to that used in *Western Nuclear*. The court first determined that geothermal resources are actually the result of a process in which magma heats water contained in porous rock strata, and that, at a general level, all of the elements involved in the process, including water itself, could properly be classified as minerals. The court stated that the pertinent question was whether such classification fit Congress' purposes in enacting the SRHA. *Id.* at 1273-74.

The court in *Union Oil* examined in detail the legislative history surrounding the passage of the SRHA. The court noted that, prior to 1909, public lands were disposed of as either wholly mineral or nonmineral in character, which led to inefficiencies and fraud.

The SRHA represented a new class of legislation that separated the right to mine from title to the soil in order to encourage efficiency of use. As did the Court in *Western Nuclear*, the court in *Union Oil* referenced the idea of the legislators that the farmer-stockman who would homestead the land would not be interested in looking for minerals. The court also pointed out that Congress defended the large size of each homestead patent by stating that the grant was limited to the surface estate and that the reservation would “cover every kind of mineral.” *Id.* at 1278 (quoting comments of Congressman Ferris, 53 Cong. Rec. 1171 [1916]). The court noted that the mineral reservation in the SRHA actually was criticized for its until-then unprecedented breadth. The court concluded that the mineral reservation in the SRHA should be read broadly in light of the agricultural purpose of the patent grant itself and the clear purpose of Congress to retain ownership of subsurface resources, particularly those that could be used as sources of energy. As a result, the court held that geothermal resources were titled in the federal government, and reversed the district court’s determination to the contrary. *Id.* at 1280-81.

Although *Union Oil* predated the decision in *Western Nuclear*, and thus did not expressly follow the guidelines set forth by the Supreme Court, the analysis employed in both cases is similar. Both courts began by determining whether the resource in question could be classified as a mineral under some definition of that word, and then attempted to determine whether such an interpretation would advance the purpose of the statute, given its legislative history.

Geothermal resources as mineral in character

The first step in the *Western Nuclear* analysis is to determine whether geothermal resources in general are minerals in character, that is, inorganic. *Western Nuclear*, 462 U.S. at 53. Rosette argues the substance in question is the heat from the water, and that heat itself cannot properly be classified as inorganic. Rather, according to Rosette, heat is properly found in plants and animals and is one of the properties, in addition to light and air, which is appurtenant to the property. However, as recognized in *Union Oil*, geothermal resources are not isolated substances and are dependent upon heat from magma being transmitted to water contained in porous rock strata. 549 F.2d at 1273. There is no question that both magma and rock are inorganic in character.

Rosette contends that water cannot be a “mineral,” citing *Andrus v. Charlestone Stone Products Co.*, 436 U.S. 604 (1978). In *Andrus*, the Court held that water was not a “valuable mineral deposit” within the scope of the federal mining statute. However, *Andrus* is not applicable here. The Court in *Andrus* held simply that water could not be categorized as a “locatable mineral” within the legislative intent of the mining act. The Court reasoned that water was so common as to lead to abuses under the mining act, which allowed persons to gain title to valuable federal land by discovering a locatable mineral on the land. However, while the Court in *Andrus* held that water is not a locatable mineral under the mining act, it concluded that water could in fact be a mineral in the broadest sense of the word. *See id.* at 610. In *Union Oil*, the court determined that

water could be classified as a mineral. The court pointed to a wide variety of sources, including mining treatises and texts on mineralogy in making this determination. *See* 549 F.2d at 1273, n.5.

We conclude that the geothermal process as a whole is inorganic within the definition set forth in *Western Nuclear*, and thus may be classified as generally mineral in character.

Geothermal resources as removable from soil and usable for commercial purposes

The parties do not dispute that geothermal resources as a whole are removable from the soil and usable for commercial purposes. Therefore, these two parts of the *Western Nuclear* test are satisfied.

Geothermal resources as included by Congress in surface estate

The final requirement is whether “there is no reason to suppose” that Congress intended geothermal resources to be included within the surface estate. *Western Nuclear*, 462 U.S. at 53. Analysis of this requirement entails an examination of the purposes for which Congress intended the land to be used by the various holders of the rights. *See id.* at 52-60.

It is fairly certain that, at the time of the passage of the SRHA, Congress did not specifically intend that geothermal resources as such be retained by the federal

government. See *Union Oil*, 549 F.2d at 1273 (noting that although steam had been used to generate electricity in Italy as early as 1904, no geothermal power plants went into production in the United States until 1960). However, the question is not what Congress intended to reserve, but rather what Congress intended to give away in its grant to the landholder in the SRHA. The established rule is that land grants are construed favorably to the government and nothing passes except that which is conveyed in clear language, resolving all doubts in favor of the government. *Western Nuclear*, 462 U.S. at 59.

As noted by the courts in *Western Nuclear* and *Union Oil*, the purpose of the SRHA was to open up lands suitable for development for ranching and the planting of forage crops, with the understanding that the farmer-stockman who would be a tenant would be unlikely to want to develop the underlying resources. *Western Nuclear*, 462 U.S. at 53-56; *Union Oil*, 549 F.2d at 1276-79. The question, then, is whether the farmer-stockman contemplated by Congress to be a patent holder would want to develop geothermal resources.

Rosette contends that geothermal resources are, in their essence, hot water, and that the water is useful in the farming and ranching context. In *Union Oil*, the appellees argued that references in the Congressional Record to homesteaders drilling wells indicated that Congress intended title to underground water to pass with the surface estate under the SRHA. The court rejected the argument, stating that references in the Congressional Record were not speaking to the commercial development of geothermal

wells, but rather the development of fresh water for use by livestock. 549 F.2d at 1279.

It is highly unlikely that Congress intended that homesteaders taking patent to the surface area develop geothermal resources. Certainly, it would be difficult for such homesteaders to utilize geothermal steam or even hot water for use in the production of forage crops and the raising of livestock.

Rosette also argues that the Department of Interior's position prior to the passage of the Steam Act in 1970 was that geothermal steam, as simply water at a high temperature, was not subject to the mineral reservation of the SRHA. In support of this contention, Rosette cites a memo from the Department of Interior in 1965 which includes two opinions from its solicitor's office that the mineral reservation clause does not include geothermal energy because it is essentially heated water, and water has generally not been treated as a mineral in other acts. Rosette argues it therefore must be inferred that Congress did not intend to reserve geothermal energy.

This same issue was also raised, using the same sources of support, in *Union Oil*. See 549 F.2d at 1279-80. Although the *Union Oil* court recognized the holding in *Udall v. Tallman*, 380 U.S. 1, 16 (1965), and other cases, that great deference should be given to the construction of a statute by the officers or agency charged with its administration, it determined that deference to the opinions in question was not warranted. See 549 F.2d at 1279-80. The court stated that the views of the Department of the Interior did not reflect a contemporaneous construction by administrators who participated in the drafting of the

statute, nor had Congress approved the interpretation. The court noted that instead, Congress, in its discussion regarding the Steam Act, had expressly disapproved of the Department's opinion as the conclusive determination of the question. *Id.* at 1280 (citing H.R. Rep. No. 91-1544, 91st Cong., 2d Sess., *reprinted* at 1970 U.S. Code Cong. & Admin. News 5113, 5119). Ultimately, the court stated the main deficiency in the documents by the Department of the Interior was there was no attempt to actually examine the intent of Congress, which was the sole question in interpreting the statute. *Id.* at 1280, n. 19.

While it is true that great deference is given to the interpretation of a statute by the agency charged with its administration, this respect is particularly due where the administrative practice is a contemporaneous construction of the statute, which is not the case here. *See Udall*, 380 U.S. at 16. The two Department of Interior opinions which form the basis for Rosette's assertion were written in 1965 and the SRHA was passed in 1916. Also, much as the opinions are predated by the SRHA, they themselves predate the opinion in *Western Nuclear* and the test established therein. Neither opinion purports to consider what Congress might have intended in passing the SRHA, instead noting that water is generally not treated as a mineral in land-use laws, and from that general treatment extrapolating that geothermal resources are not reserved under the SRHA. An analysis of the two Department of Interior opinions does not reveal any in-depth consideration of the type of factors used in *Western Nuclear*. In fact, one opinion

expressly notes that water, particularly subterranean water, is normally classified as a mineral. Further, rather than being recognized by Congress, the view of the Department of Interior was expressly rejected as authoritative by the Congressional Committee on Interior and Insular Affairs in its deliberations regarding the Steam Act. *See* 1970 U.S. Code Cong. and Adm. News at 5119 (stating that “the opinion of the Department is not a conclusive determination of the legal question”). As a result, we agree with the court in *Union Oil* that the Department of Interior’s pre-Steam Act interpretation is entitled to little deference in interpreting the mineral reservation in the SRHA.

Based on the application of the *Western Nuclear* test, we conclude that geothermal resources in general are in fact “minerals” under the SRHA. The components of the process, including magma, rock, and water, are minerals in the general sense that they are inorganic. The product of the process, whether steam or hot water, may be extracted from the soil and is usable for commercial purposes. Further, there is no reason to suppose that Congress intended that the geothermal resources be included in the surfaceholder’s patent given the stated purpose of the patent to promote the raising of livestock and forage crops. The next question is whether the geothermal resources in the case at hand are so unusual as to take them outside this definition.

Geothermal resources in Well 55-7 as minerals under the SRHA

Rosette argues even if geothermal resources in a general sense are “minerals” under the SRHA, the particular geothermal resources used by Rosette do not fall under

this definition. Rosette argues that, in the Steam Act, Congress recognized that not all geothermal resources were reserved to the federal government under the SRHA, that the particular nature of the hot water used by Rosette takes it outside the definition of a mineral under the SRHA because it was essentially potable water that could be used for stockraising and the planting of forage crops, and further that the water is not hot enough for commercial use.

The Steam Act

Rosette first argues that, in the Steam Act of 1970, Congress recognized the reservation clause in the SRHA did not encompass all geothermal resources. According to Rosette, 30 U.S.C. § 1020(b) calls for an authoritative judicial determination each time the Department of the Interior believes a particular geothermal well is subject to the mineral reservation clause in the SRHA. 30 U.S.C. § 1020(b) provides:

Geothermal resources in lands the surface of which has passed from Federal ownership but in which the minerals have been reserved to the United States shall not be developed or produced except under geothermal leases made pursuant to this chapter. If the Secretary of the Interior finds that such development is imminent, or that production from a well heretofore drilled on such lands is imminent, he shall so report to the Attorney General, and the Attorney General is authorized and directed to institute an appropriate proceeding in the United States district court of the district in which such lands are located, to quiet the title of the United States in such resources, and if the court determines that the reservation of mineral to the United States in the lands involved included the geothermal resources, to enjoin their production otherwise than under the terms of this chapter: Provided, That upon an authoritative judicial determination that Federal mineral reservation does not include geothermal steam and

associated geothermal resources, the duties of the Secretary of the Interior to report and of the Attorney General to institute proceedings, as hereinbefore set forth, shall cease.

Contrary to the assertion of Rosette, the legislative history of this part of the Steam Act does not reflect Congress' recognition that some geothermal resources are not included in the SRHA, but rather reflects Congress' recognition that, at the time the Steam Act was passed, it was an open question whether geothermal resources were included in the SRHA. See 1970 U.S. Code Cong. and Adm. News at 5119. The Committee on Interior and Insular Affairs stated that §1020(b) was designed to provide for an authoritative judicial determination of whether geothermal resources were reserved under the mineral reservation in the SRHA. The Committee stated:

The Committee is aware that the Department of the Interior has expressed the view that geothermal steam is not subject to the mineral reservation of the Stockraising Homestead Act of December 29, [1916]. The Committee is also aware that a contrary view has been expressed. As the opinion of the Department is not a conclusive determination of the legal question, it was the sense of the Committee that an early judicial determination of this question (upon which the Committee takes no position) is necessary. At issue is the ownership of geothermal steam on more than 35 million acres of land, the surface of which has passed from Federal ownership but with a reservation of minerals to the United States. The bulk of this acreage was patented under the provisions of the Stockraising Homestead Act, and the reserved minerals therein are subject to disposition under appropriate mineral laws. *It is not the intent of the Committee that this direction to initiate a proceeding in a U.S. District Court shall constitute a continuing obligation upon the Attorney General but merely that an authoritative judicial determination be obtained that the mineral reservation of the Stockraising Homestead Act, and similar acts, does or does not reserve to the United States the geothermal steam.* The development of geothermal resources in these lands will be retarded until the question of ownership is determined.

1970 U.S. Code Cong. and Adm. News at 5119 (emphasis added). Thus, contrary to Rosette's assertion, § 1020(b) does not call for a judicial determination each time the federal government believes a well might be reserved, but rather calls for "an early judicial determination" on the question of whether geothermal rights are or are not included in the mineral reservation of the SRHA and other acts. It is not support for the contention that Congress recognized some geothermal wells may not fit within the reservation clause. Instead, it is support for the opposite proposition.

Nature of geothermal resources

Rosette argues the geothermal resources in question in this case are not salt water and geothermal steam, as was the case in *Union Oil*, but rather potable heated water containing less than 1,400 milligrams per liter of solids. According to the stipulated facts, beneficial use of the groundwater in Section 7 has been made for irrigation of field crops, stock watering, and various domestic uses, including drinking water. Rosette contends this is strong evidence that the geothermal rights should remain with it as the surfaceholder, as the water would be useful for the stockraising and forage crop producing activities contemplated in the SRHA. However, the geothermal resources in question in this case are from Well 55-7, which was an exploratory well drilled deeper than 1,000 feet. The temperature of the water from the well was at 232.9 degrees Fahrenheit. The well was drilled in the 1980s and was never used as a source for

irrigation. It is unlikely Congress, in passing the SRHA, contemplated that the surfaceholder would have the inclination and the expertise to develop geothermal resources at that temperature for the purpose of irrigation of forage crops and watering of stock. Although Rosette argues it could use the water for irrigation, its roses are irrigated from wells in an adjacent section.

There simply is no reason to suppose that Congress intended a geothermal well such as the one at issue be included within its grant of land to homesteaders under the SRHA. Given the characteristics of the well, Rosette's argument that the geothermal resources are included within its surfaceholder rights is not persuasive.

Temperature of geothermal resources

Rosette's next argument is that the temperature of the well is not sufficient to feasibly produce electrical energy. Rosette argues the temperature of the water renders it useless under the Steam Act, and further prevents it from being removable from the soil for purposes of the definition of a mineral under the SRHA. Both parties acknowledge the question of whether the temperature in Well 55-7 is hot enough for commercial generation of electricity is a disputed question of fact, which, if material, would require a remand. The district court found that the question was not material, and we agree.

For a substance to constitute a "mineral" under the mineral reservation of the SRHA, the substance must be removable from the soil and usable for commercial

purposes. *Western Nuclear*, 462 U.S. at 53. Rosette's contention that the resources at issue are not removable or usable is based on its reading of *Occidental Geothermal, Inc. v. Binkley Ranch Club*, 543 F. Supp. 870 (N.D. Ca. 1982). In *Occidental*, the court faced the question of whether the holder of mineral rights under the Steam Act could place an electrical power plant on the surface of land patented under the SRHA. In concluding the mineral rights holder could do so, the court addressed the nature of geothermal energy, stating:

The starting point of the analysis is the undisputed fact that geothermal energy must be exploited, if it is to be exploited at all, on the lands from which it is to be removed. It is the geothermal steam heat and pressure that are used to produce energy. Of course, when steam is allowed to escape or is transported long distances, it loses its heat and pressure. If the steam cannot be used at the source, but rather must be conducted through pipes to distant electrical generating facilities, thereby exposing it to friction and heat loss, it loses its practical utility as a source of electrical energy. . . For this reason, the 'removal' of geothermal resources is inextricably connected to their 'utilization.' Indeed because these resources cannot be 'removed' without first being 'utilized' (to the extent of being converted into electrical energy), the two processes can, in the case of geothermal energy, be said to be one.

Id. at 874-75. The court in *Occidental* noted, however, that the owner of the mineral rights could not rely on the removal and utilization language to construct a chemical plant or greenhouse powered by the geothermal resource without obtaining the consent of the surface owner.

Rosette seeks to enlarge the language in *Occidental* beyond its context. Rosette argues that, 1) since removal and utilization are one process in connection with

geothermal resources, then 2) geothermal resources must be converted to electricity in order to be utilized and removed; and if 3) the geothermal resources cannot be feasibly converted into electricity, then 4) they cannot be removed, and 5) therefore they are not minerals under the SRHA.

It is true that, in most cases, in order to be utilized for the production of electricity, the geothermal resource must be removed and utilized on-site. This does not mean, conversely, that the geothermal resource must be used in the production of electricity in order to be removed and utilized. Even if the temperature of the geothermal resources in question does not allow them feasibly to be converted into electricity, this does not prevent them from being removed from the soil and utilized for commercial purposes. They may, for example, be removed by the mineral holder and sold to the surfaceholder for the heating of greenhouses or other surface structures on the property. The mineral rights may also be leased by the federal government directly to the surfaceholder for such purposes. In either case, the minerals are being removed from the soil and used for commercial purposes. Nor is the production of electricity the only purpose for which the geothermal resources can be used under the Steam Act. Although the Steam Act is generally geared toward the production of energy, it also encompasses other commercial uses for geothermal power, including the production of commercially important mineral by-products and the development of new fresh water supplies. See 1970 U.S. Code Cong. & Adm. News at 5113.

Whether or not the temperature of the geothermal resources in Well 55-7 is high enough to allow it to be used to generate electricity is immaterial to its status as a mineral under the SRHA.

Entitlement to use of geothermal resources notwithstanding reservation clause

Rosette's final argument is that, even if the geothermal resources under Section 7 are minerals under the SRHA, Rosette still has the right to use the resources as surfaceholder to advance the purposes of the homestead. Rosette contends it has a permit to utilize the water rights in the section to develop the homestead, and that use could not be infringed by the federal government.

It is undisputed that Rosette has the right to beneficial use of 450 acre feet of water per annum issued by the New Mexico State Engineers Office. It is further undisputed that these rights predate the passage of the Steam Act. However, the rights do not predate the SRHA, and therefore, Rosette's rights to the use of the water are governed by its rights under its patents and the reservation of mineral rights by the federal government.

Rosette argues it is utilizing the geothermal resources in question to further its crop-raising activities, and that it has a right to do so in connection with its homestead. Rosette's argument that it may still use the geothermal resources in Well 55-7 in furtherance of its homestead is based on a footnote in *Western Nuclear*. See 462 U.S. at 54, n. 14, where the Court stated:

We note that this case does not raise the question whether the owner of the surface estate may use a reserved mineral to the extent necessary to carry out ranching and farming activities successfully. Although a literal reading of the SRHA would suggest that any use of a reserved mineral is a trespass against the United States, one of the overriding purposes of the Act was to permit settlers to establish and maintain successful homesteads. There is force to the argument that this purpose would be defeated if the owner of the surface estate were unable to use reserved minerals even where such use was essential for stockraising and raising crops.

The Court drew an analogy between such a situation and that in *Shiver v. United States*, 159 U.S. 491 (1895), which concerned the right of a person under a homestead act to cut timber on federal lands. The Court held that, notwithstanding the fact that it was a crime to cut timber on lands held by the United States, the homesteading statute would be ineffective if the homesteader did not have the right to build a house, outbuildings, and fences, and to clear the land for cultivation. Although the Court in *Western Nuclear* found the rights of the homesteader to use reserved resources to be an interesting issue, it did not address it because the landowner in that case was selling gravel for commercial purposes not in any way related to farming or ranching.

Even if *Western Nuclear* can be read to establish such a right to use reserved minerals in connection with the homestead, this right would not encompass Rosette's activity. The purpose of the SRHA was to encourage settlement of the land for use in stockraising and the raising of forage crops. See *Western Nuclear*, 462 U.S. at 53.

Webster's Third New International Dictionary defines forage as "vegetable food (as hay, grain) for domestic animals." *Webster's Third New International Dictionary* 886 (1993).

Other definitions are similar. See, e.g. 40 C.F.R. Pt. 158, App. A (1999) (listing forage crops as typical annual and perennial grasses, corn, sorghum, small grains for forage and perennial legumes). These definitions would not encompass the commercial raising of roses.

Any right that can be inferred from the footnote in *Western Nuclear* and the opinion in *Shiver* would extend only to the use of resources essential for stockraising and the raising of crops. See *Western Nuclear*, 462 U.S. at 54, n. 14. Thus, while Rosette might be able to use the heated water from geothermal resources under its property for use in watering livestock or irrigating forage crops and remain within the patent, the commercial activity of heating greenhouses to produce roses for sale falls outside the patent. Therefore, Rosette, by virtue of being the surfaceholder, does not acquire the right to use the geothermal resources in Well 55-7 for use in providing heat for its commercial greenhouse operation. The right to the resources remains in the federal government.

AFFIRMED.